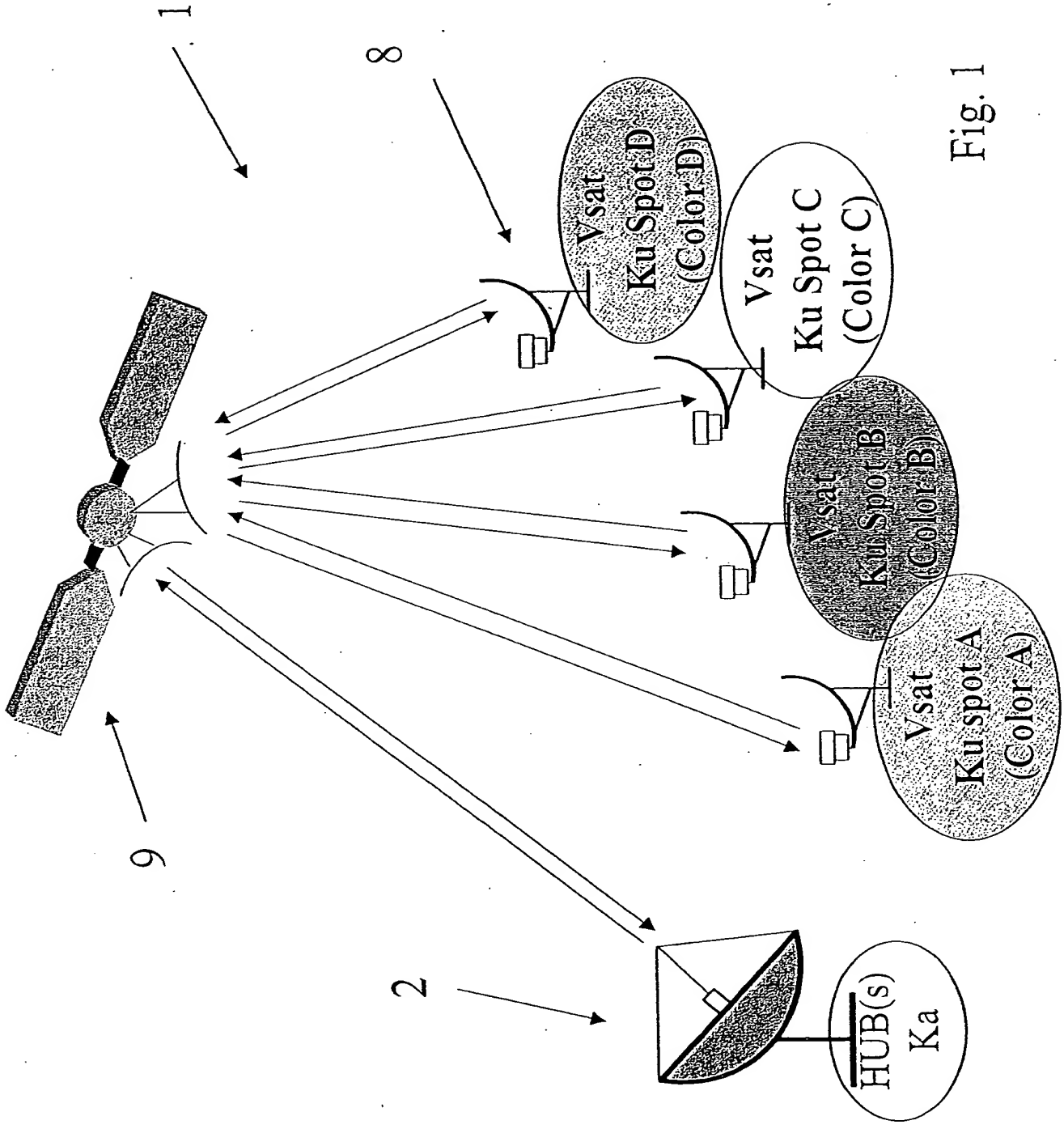


Fig. 1

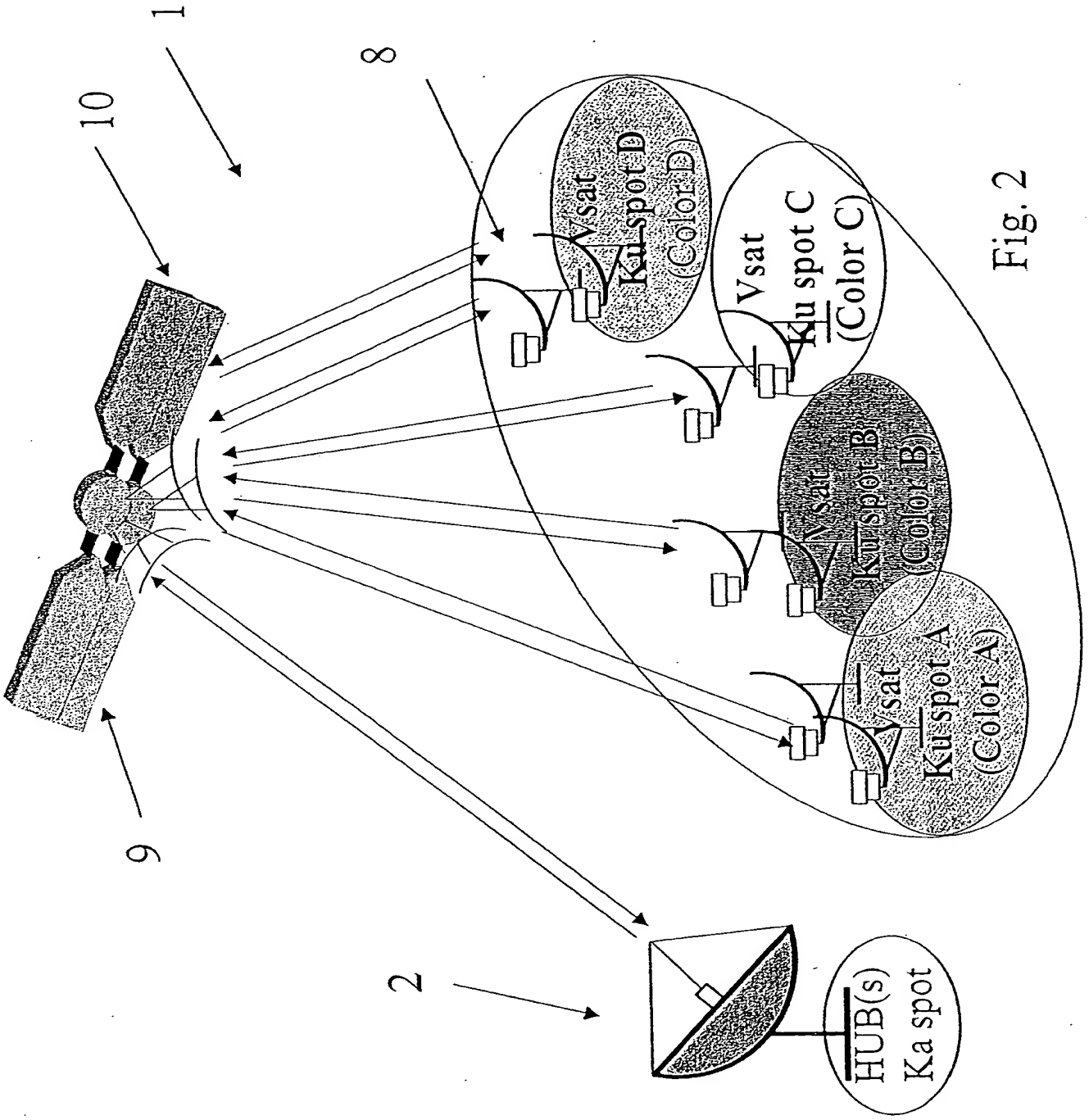

1
8
10
9
2
Vsat
Ku spot D
(Color D)
Vsat
Ku spot C
(Color C)
Vsat
Ku spot B
(Color B)
Vsat
Ku spot A
(Color A)
HUB(s)
Ka spot

Fig. 2

Channel-Arrangement Example Table

Single set out of six. Channel numbers are in the frequency order. IB or OB channels

- Fig. 3A Full configuration – Dual-satellite, Dual-pole

A spot (color A)	a-channels	b-channels
X-pol	1	5
Y-pol	3	7

B spot (color B)	a-channels	b-channels
X-pol	2	6
Y-pol	4	8

C spot (color C)	a-channels	b-channels
X-pol	3	7
Y-pol	1	5

D spot (color D)	a-channels	b-channels
X-pol	4	8
Y-pol	2	6

- Fig. 3B Single satellite - Single-pole

A spot (color A)	a-channels	b-channels
X-pol	1	5
Y-pol		

B spot (color B)	a-channels	b-channels
X-pol	2	6
Y-pol		

C spot (color C)	a-channels	b-channels
X-pol	3	7
Y-pol		

D spot (color D)	a-channels	b-channels
X-pol	4	8
Y-pol		

- Fig. 3C Single satellite - Dual-pole, "Half range" only is occupied

A spot (color A)	a-channels	b-channels
X-pol		5
Y-pol		7

B spot (color B)	a-channels	b-channels
X-pol		6
Y-pol		8

C spot (color C)	a-channels	b-channels
X-pol		7
Y-pol		5

D spot (color D)	a-channels	b-channels
X-pol		8
Y-pol		6

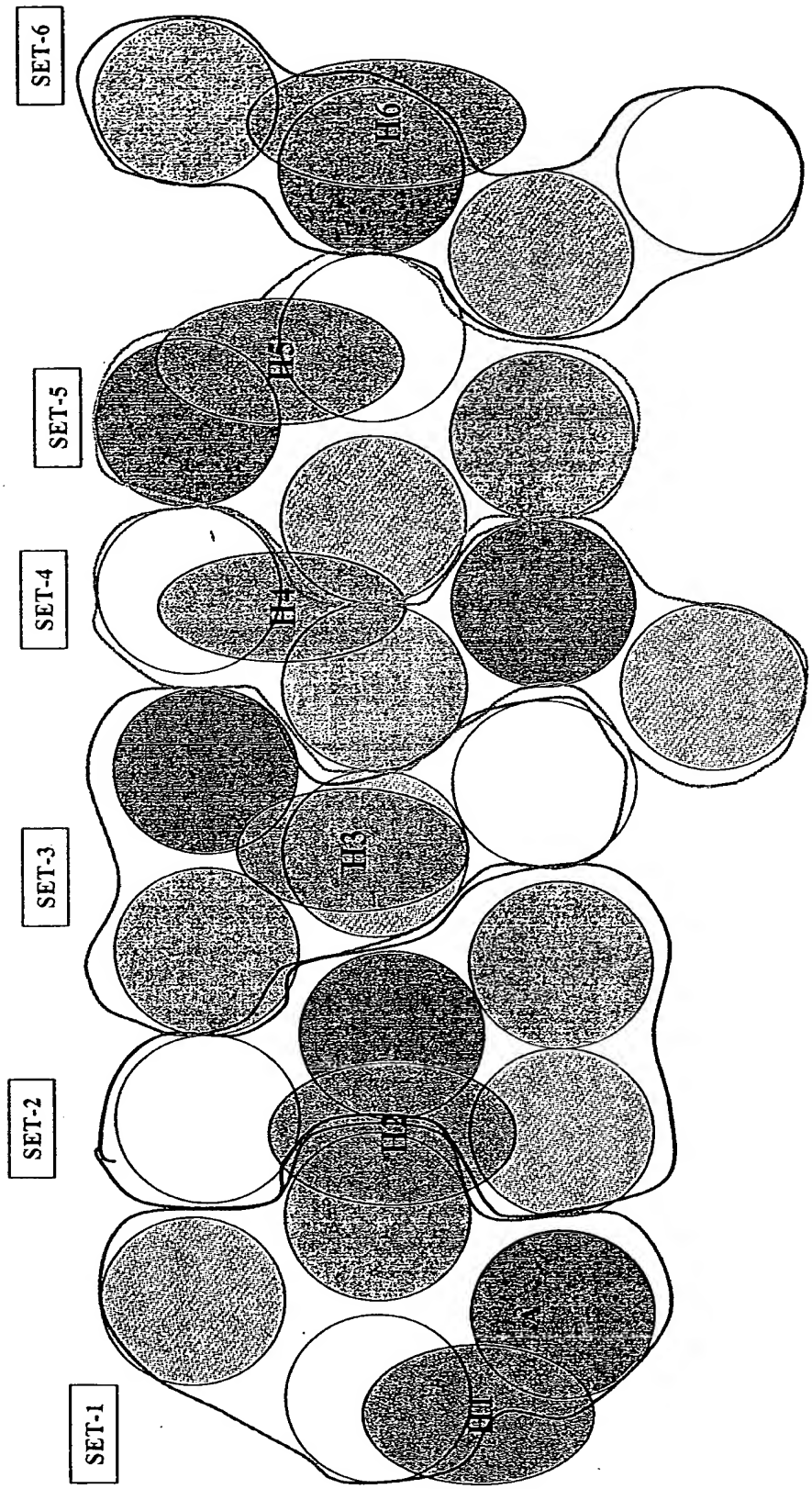


Fig. 4

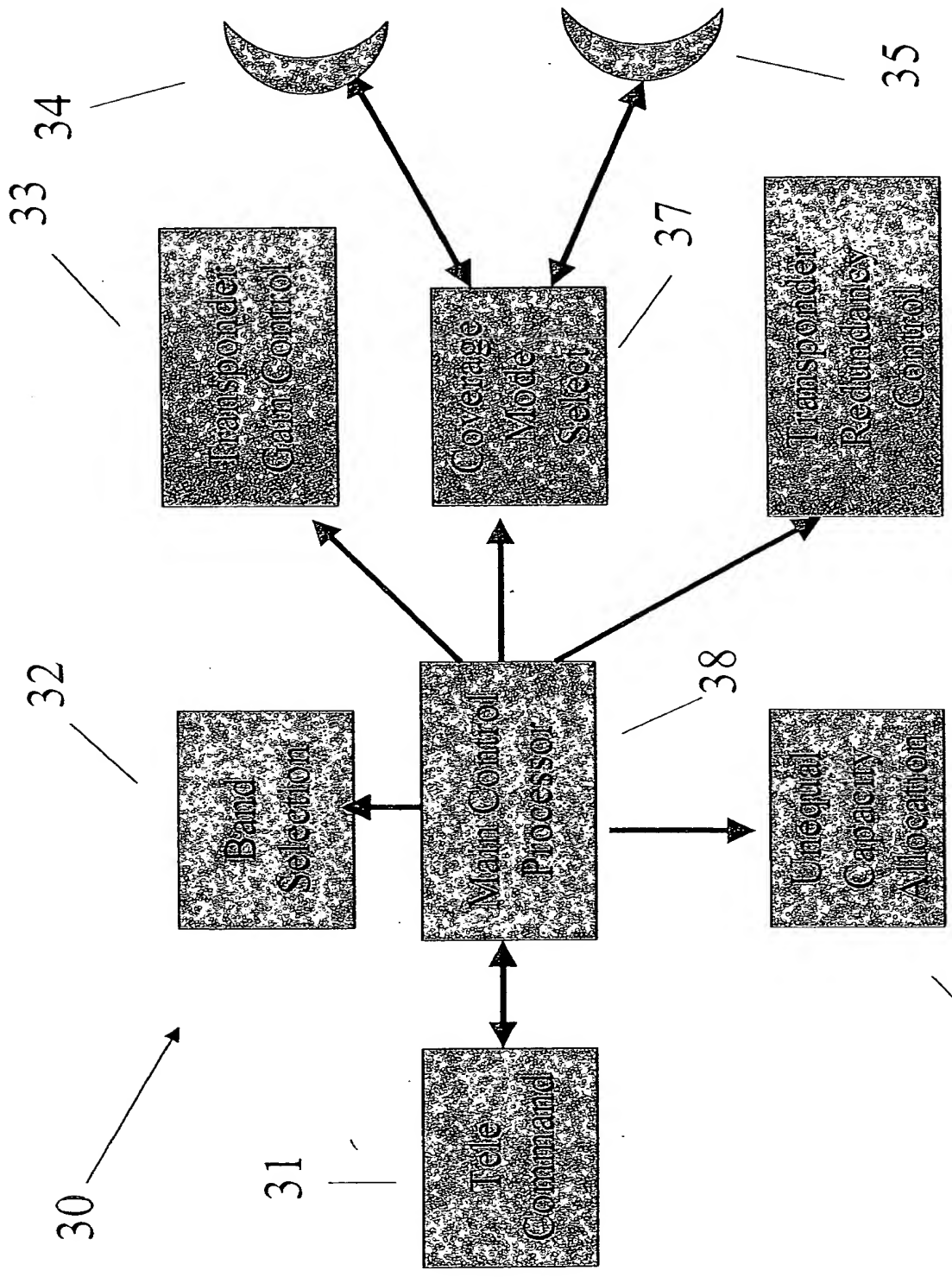


Fig. 5

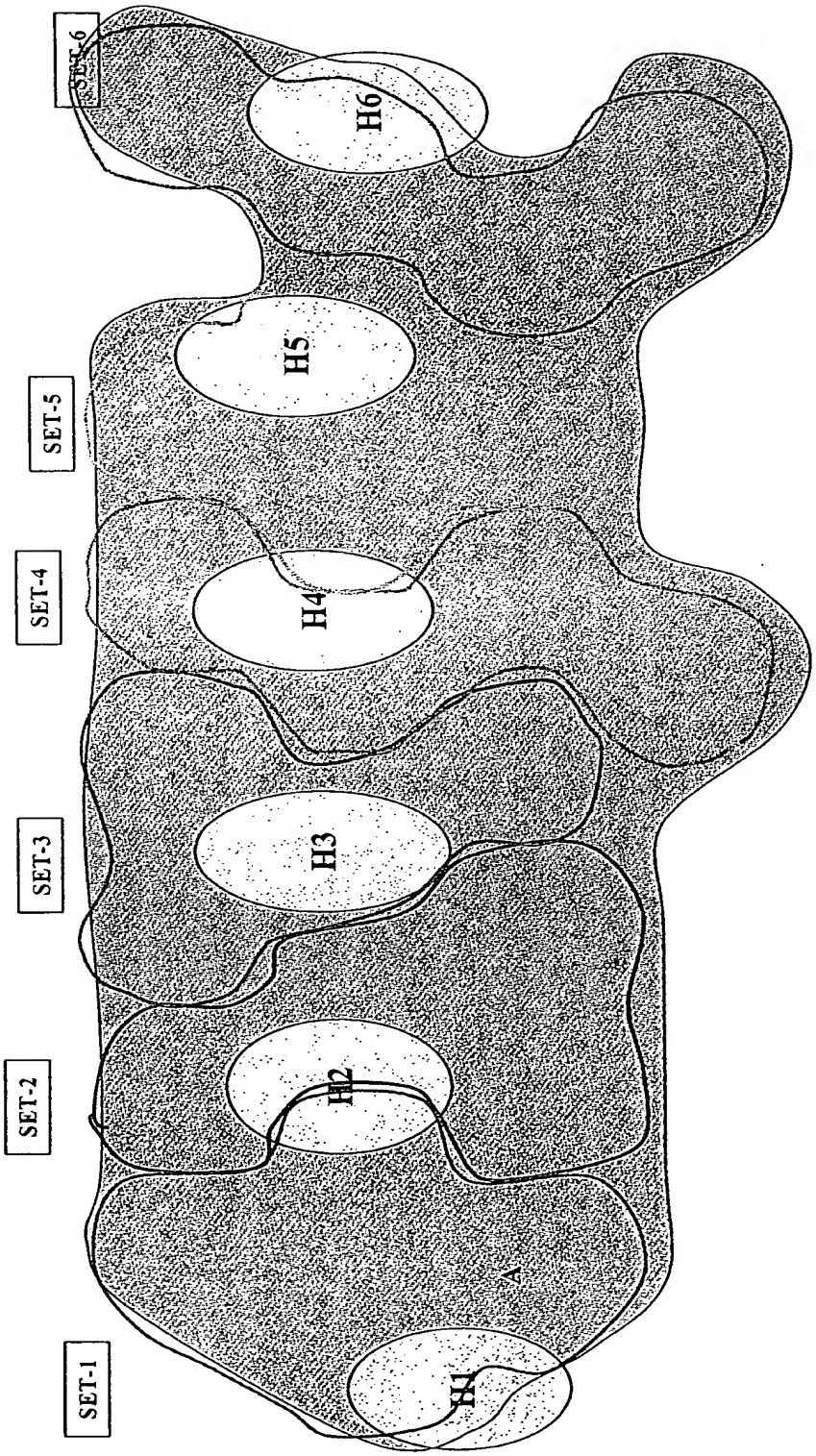


Fig. 6

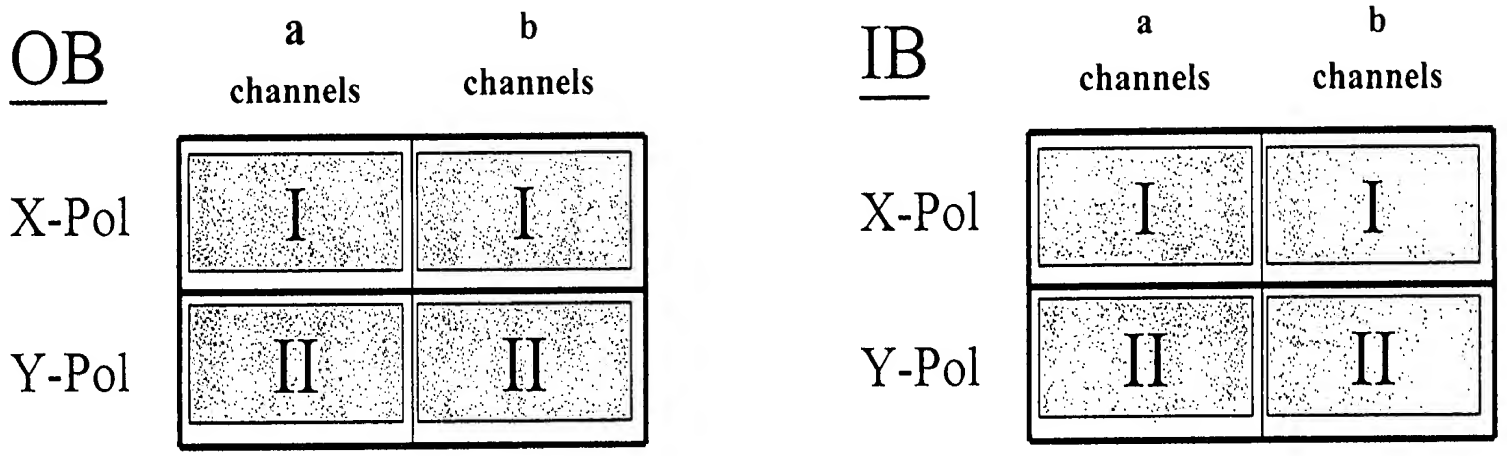


Fig. 7

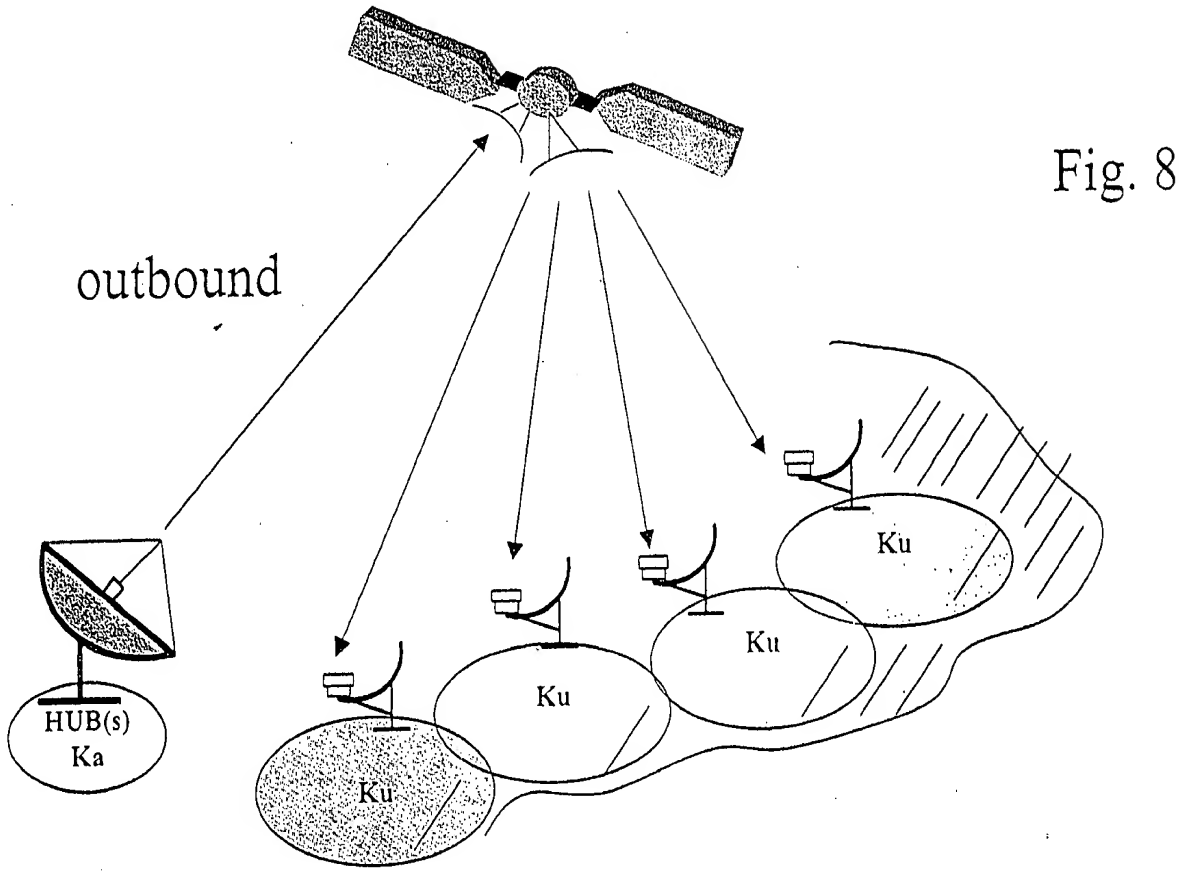
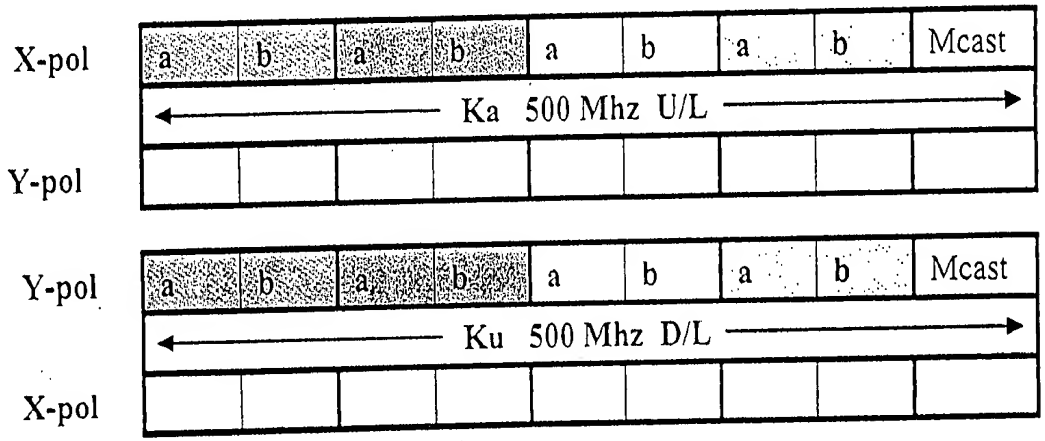


Fig. 8



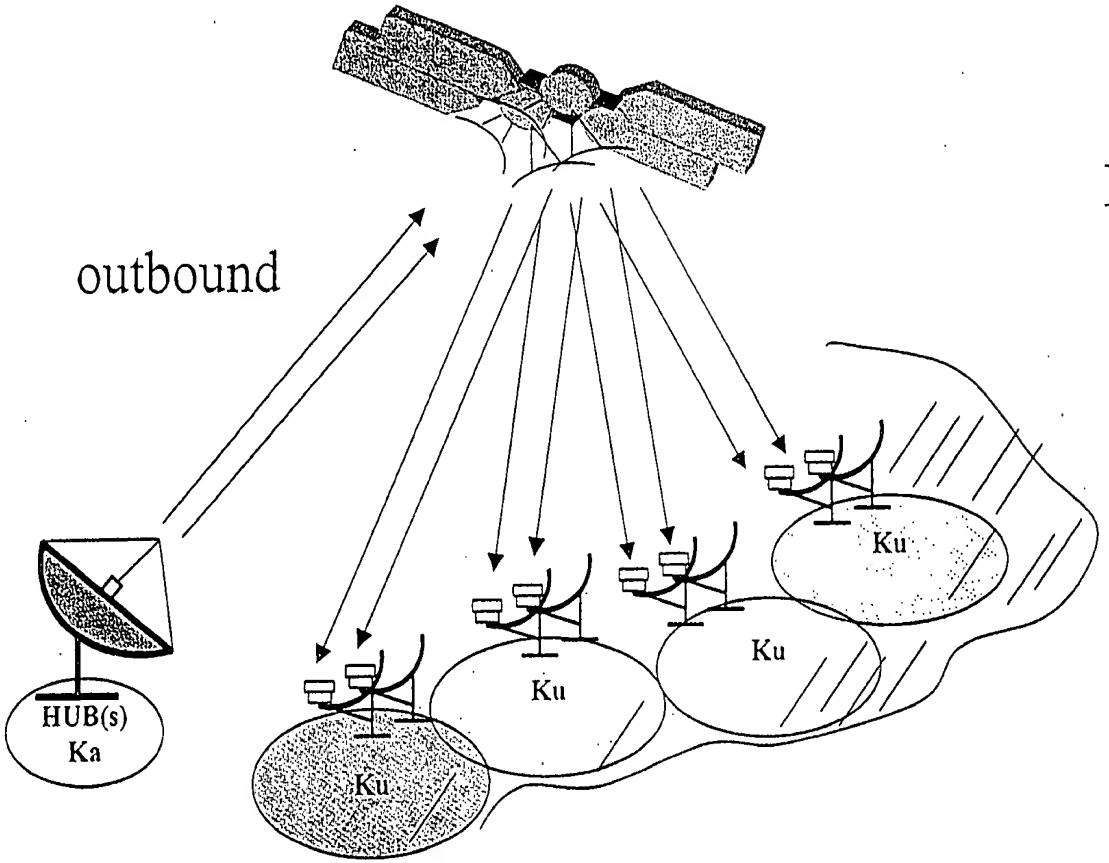
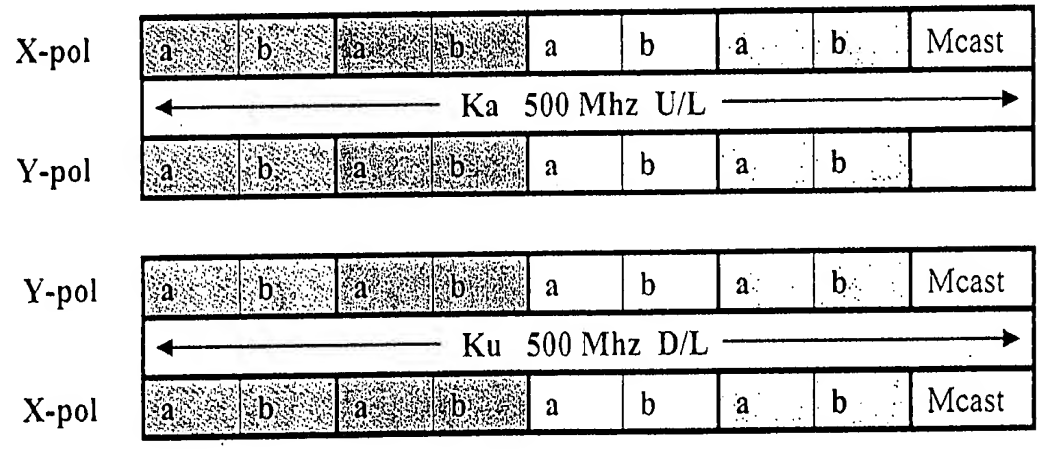


Fig. 9



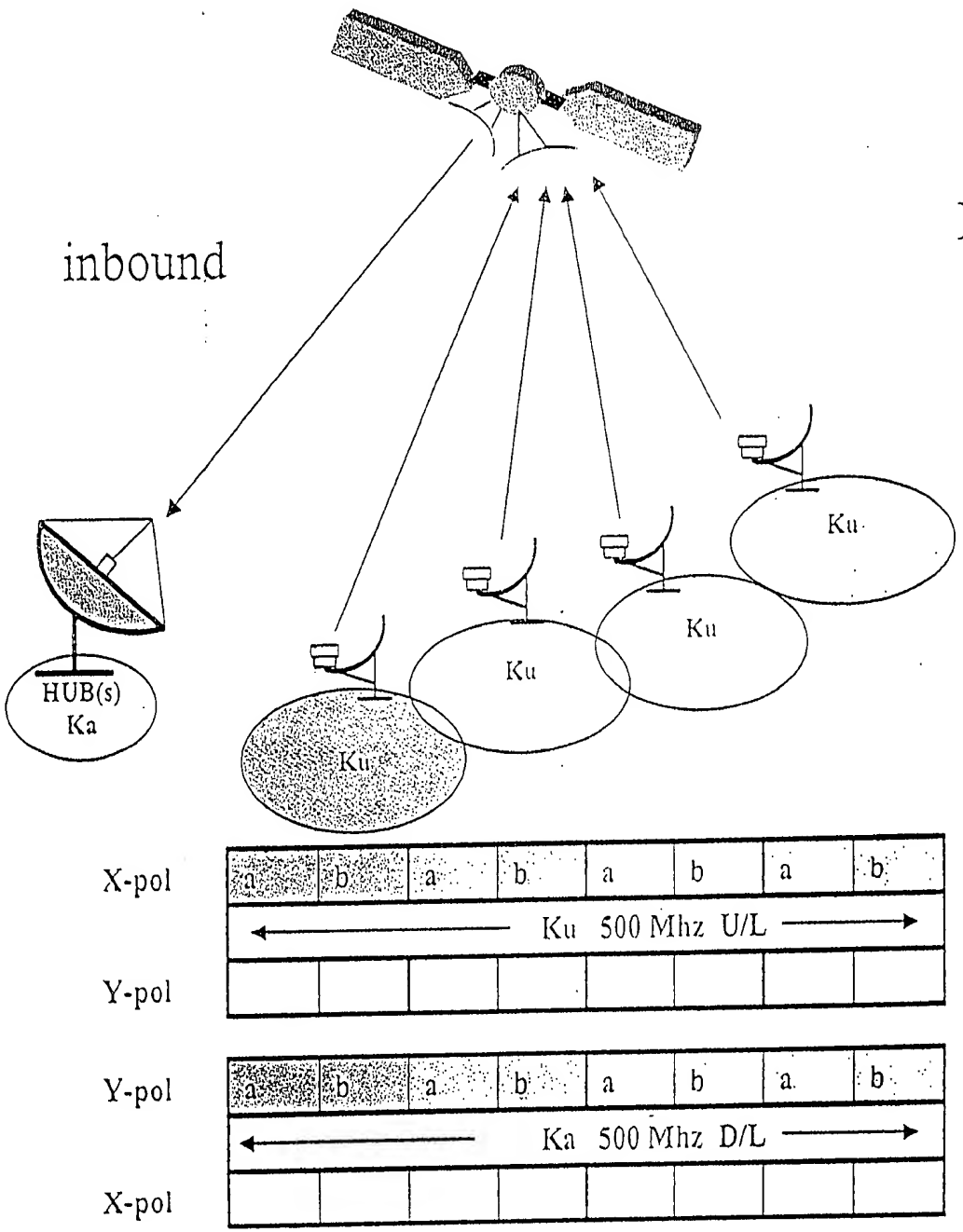
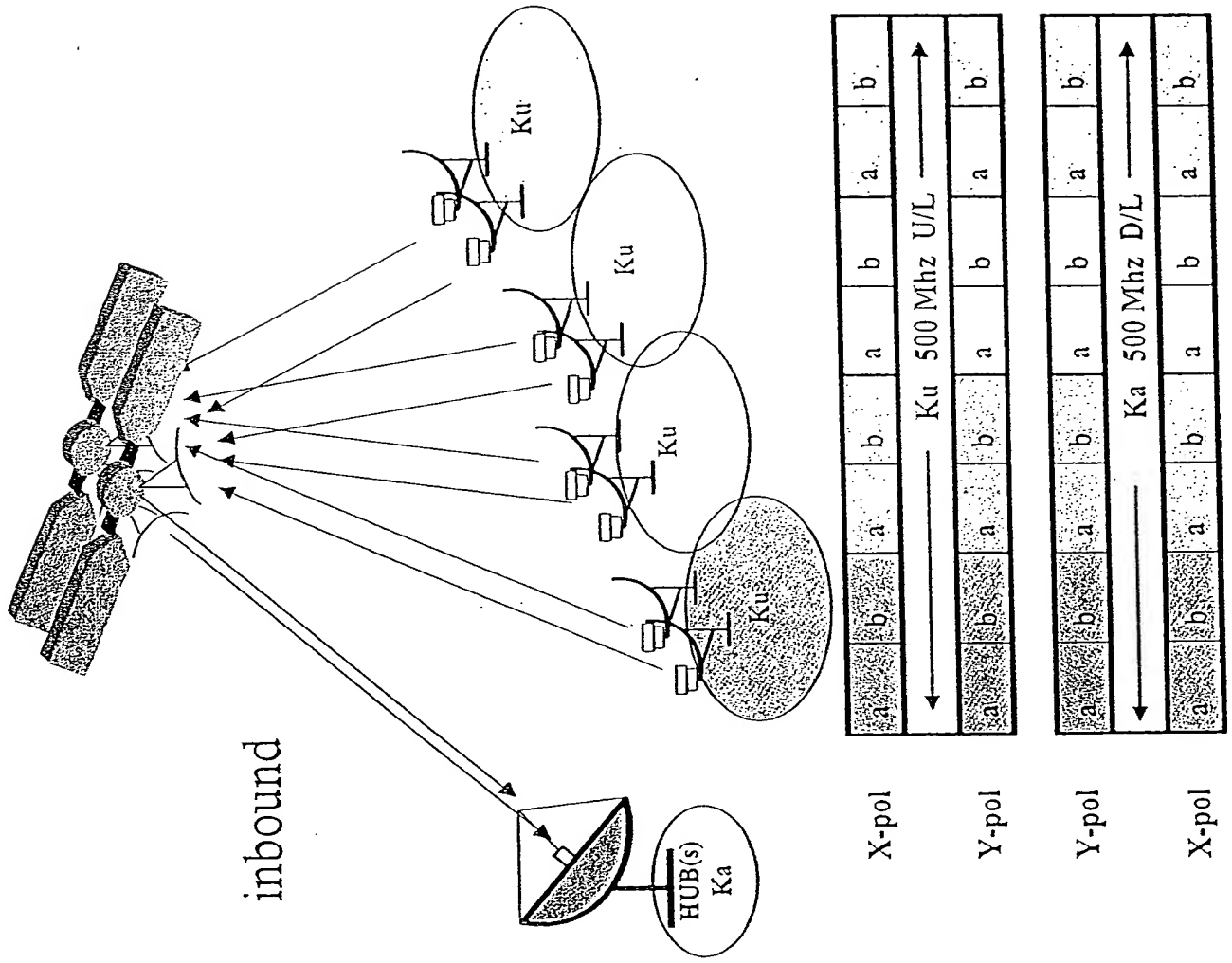
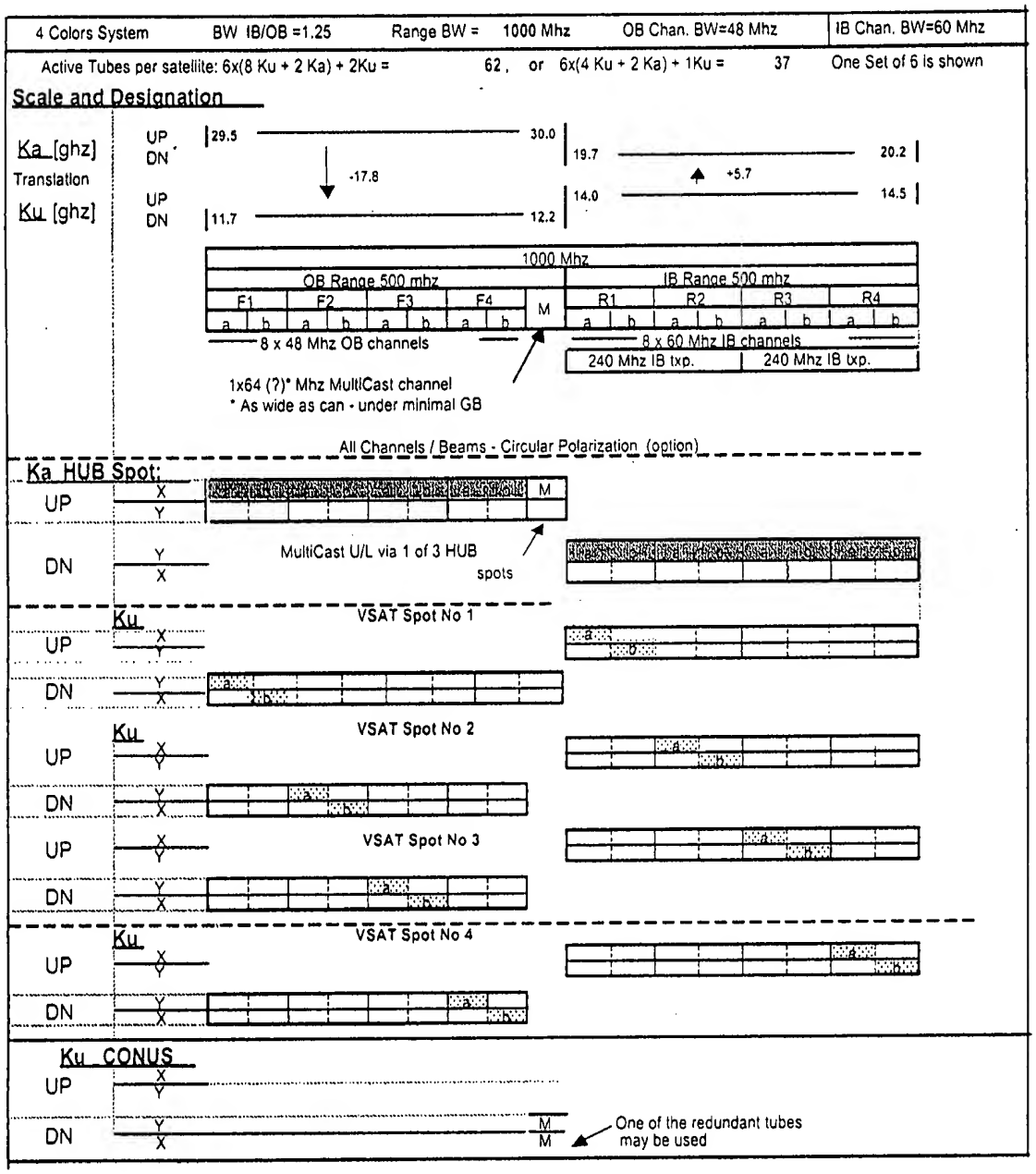


Fig. 10

Fig. 11


Ku
Ku
Ku
Ku
inbound
HUB(s)
Ka
Ku 500 Mhz U/L
Ka 500 Mhz D/L
X-pol
Y-pol
Y-pol
X-pol



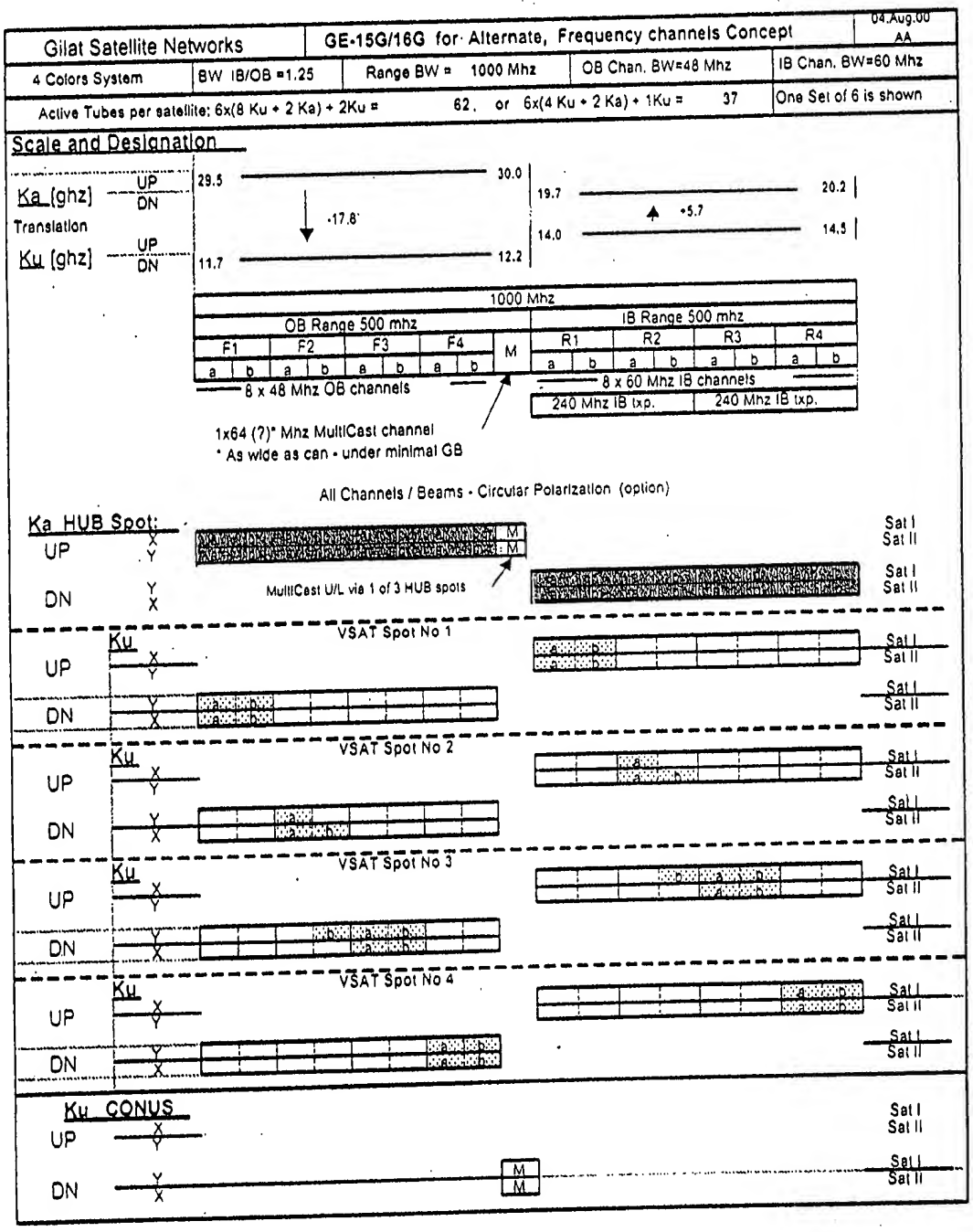
F1 to F4 are Outbound channel pairs connected generally to Spot 1 - 4 respectively

R1 to R4 are Inbound channel pairs connected generally to Spot 1 - 4

M Is a Multicast channel on both polarizations Connected (D/L) to Ku

Restoration Mode

Fig. 12



Alternate Mode
Unequal allocation of capacity

Definitions

Transponder is the specific combination of TWTA, Filter and connectivity

Channel is a frequency range segment - handled as one unit

Switching Notes

Connectivity along vertical lines only

Restoration switch along vertical lines only

Resources transfer along vertical lines only

Designation

F1 to F4 are Outbound channel pairs connected generally to Spot 1 - 4 respectively

R1 to R4 are Inbound channel pairs connected generally to Spot 1 - 4 respectively

M is a Multicast channel on both polarizations Connected (D/L) to Ku CONUS beam

Alternate Unequal allocation of cap.

Fig. 13

U.S. Serial No.: unknown Atty. Dkt. No.: 03955.00019
Inventor: Avraham AVITZOUR et al.
Title: MULTI-SPOT SATELLITE SYSTEM FOR BROADCOMMUNICATION

Channel Donation Example

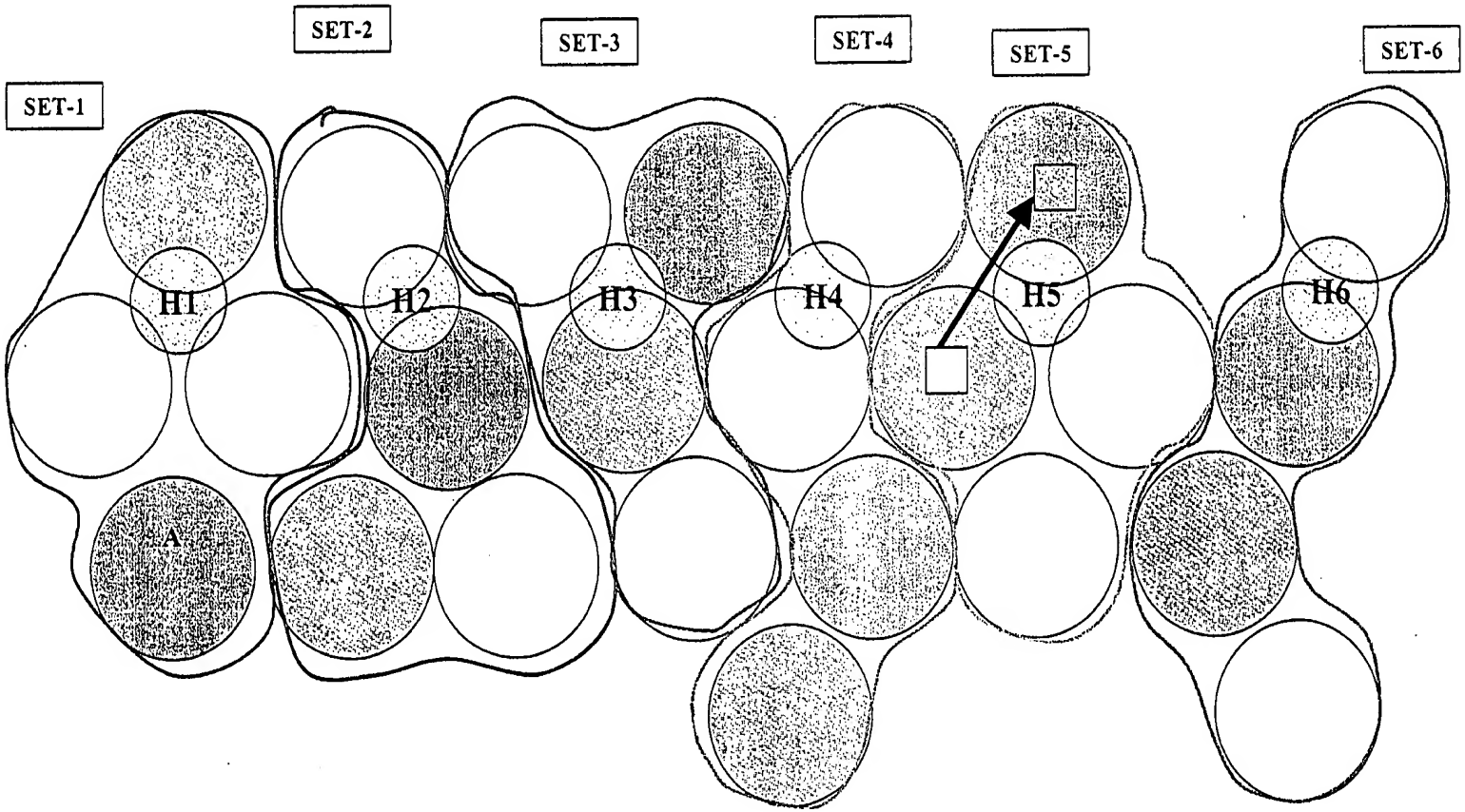


Fig. 14

Improper Channel Donation Example

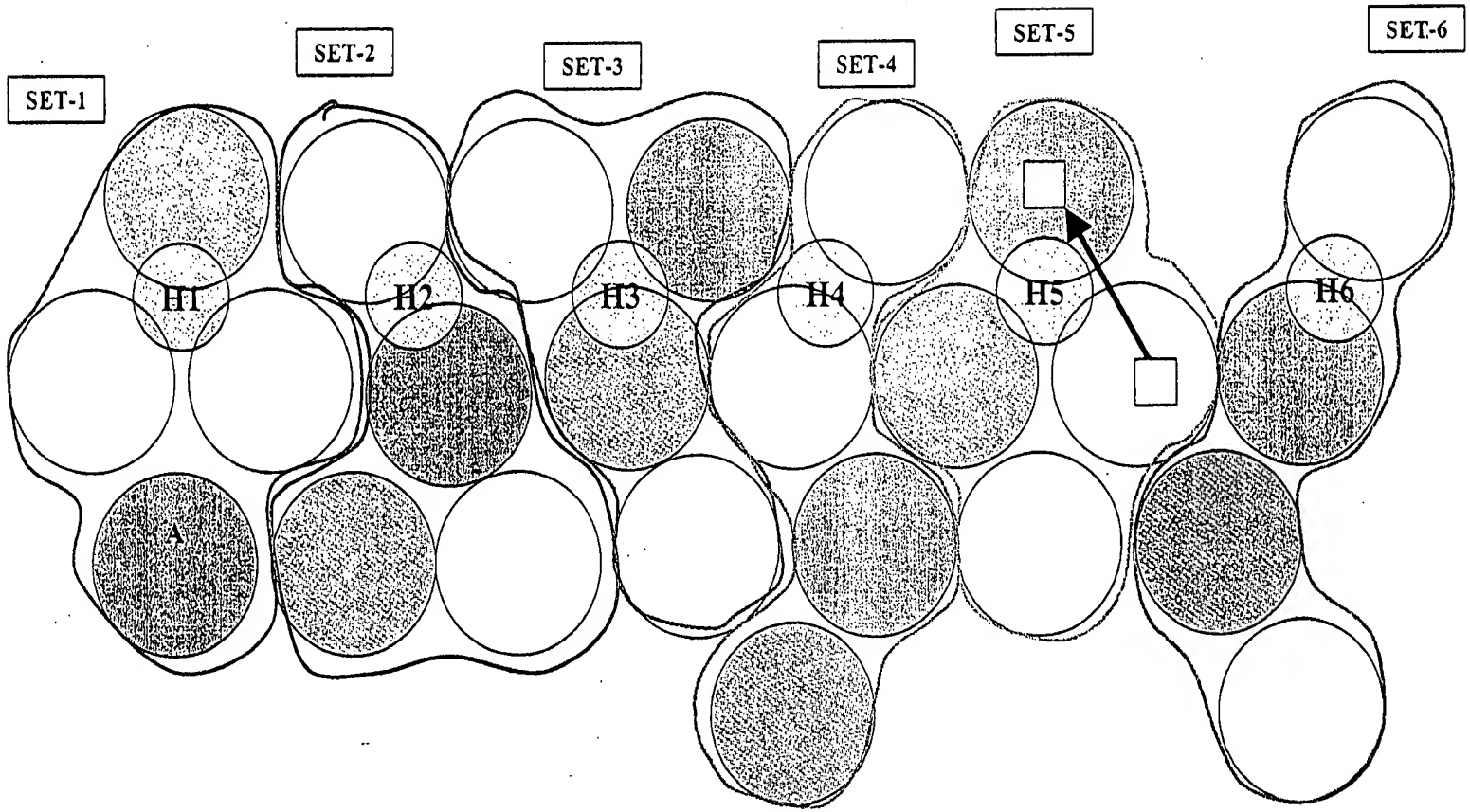
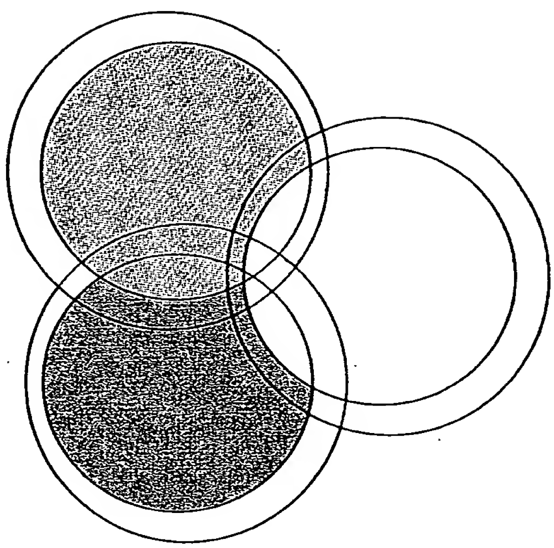


Fig. 15

Fig. 16



Factor / Satellite	Generic (Ku)	MultiBeam (Ku + Ka)
Raw Freq. Range BW	500 Mhz	500 + 500 Mhz
Polarization. Freq. Reuse	X 2	X 2
Geographical Freq. Reuse	X 1	X 6
Useable Range BW	1,000 Mhz	12,000 Mhz

Fig. 17